

**What is claimed is:**

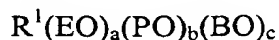
1. An automatic dishwashing detergent composition comprising:
- (a) from 5% to 90% by weight of the composition of a builder ;
  - (b) from 0.1% to 15%, by weight of the composition of an oxide surfactant, said oxide surfactant being selected from the group consisting of, amine oxides, phosphine oxides, sulfoxides and mixtures thereof;
  - (c) from 0.1% to 15% by weight of the composition of a low foaming nonionic surfactant with an X/Y number greater than or equal to 1.00 and when said low foaming nonionic surfactant contains a glyceryl ether group, the cap on said low foaming nonionic surfactant is branched or linear alkyl group containing at least 4 carbon atoms and X/Y number is calculated in the absence of dimers and trimers;
  - (d) optionally, from 0.1% to 40% by weight of the composition of a bleaching agent; and
  - (e) adjunct materials;

wherein the weight ratio of said low foaming nonionic surfactant to said oxide surfactant is from 2:1 to 30 to 1.

2. An automatic dishwashing detergent composition comprising:
- (a) from 5% to 90% by weight of the composition of a builder ;
  - (b) from 0.1% to 15%, by weight of the composition of an oxide surfactant, said oxide surfactant being selected from the group consisting of, amine oxides, phosphine oxides, sulfoxides and mixtures thereof;
  - (c) from 0.1% to 15% by weight of the composition of a low foaming nonionic surfactant wherein said low foaming nonionic surfactant has an interfacial tension of less than 8 dyne/cm;
  - (d) optionally, from 0.1% to 40% by weight of the composition of a bleaching agent; and
  - (e) adjunct materials;

wherein the weight ratio of said low foaming nonionic surfactant to said oxide surfactant is from 2:1 to 30 to 1.

3. The automatic dishwashing detergent composition according to either of Claims 1 or 2, wherein said low foaming nonionic surfactant has the formula:



wherein  $R^1$  is a linear or branched  $C_6$  to  $C_{20}$  alkyl;  $a$  is from 2 to 30;  $b$  is from 0 to 30;  $c$  is from 1 to 10.

4. The automatic dishwashing detergent composition according to either of Claims 1 or 2, wherein said low foaming nonionic surfactant has the formula:



wherein  $R^1$  and  $R^2$  are linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having from 1 to 30 carbon atoms;  $R^3$  is H, or a linear aliphatic hydrocarbon radical having from 1 to 4 carbon atoms;  $m$  is an integer having an average value from 1 to 40, wherein when  $m$  is 2 or greater  $R^3$  may be the same or different and  $k$  and  $j$  are integers having an average value of from 1 to 12; further wherein when  $m$  is 15 or greater and  $R^3$  is H and methyl, at least four of  $R^3$  are methyl, further wherein when  $m$  is 15 or greater and  $R^3$  includes H and from 1 to 3 methyl groups, then at least one  $R^3$  is ethyl, propyl or butyl, further wherein  $R^2$  can optionally be alkoxylated, wherein said alkoxy is selected from ethoxy, propoxy, butyloxy and mixtures thereof; wherein further, said surfactant has less than 30%, preferably less than 15% and most preferably less than 5% of dimers and trimers of said nonionic surfactant.

5. The automatic dishwashing detergent composition according to either of Claims 1 or 2, wherein said low foaming nonionic surfactant has the formula:

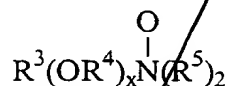


wherein  $R^1$  is a linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having from 1 to 30 carbon atoms;  $R^2$  is a linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having from 1 to 30 carbon atoms, optionally containing from 1 to 5 hydroxy groups; and further optionally substituted with an ether group;  $R^3$  is H, or a linear aliphatic hydrocarbon radical having from 1 to 4 carbon atoms;  $e$  is an integer having an average value from 1 to 40, wherein  $R^2$  can optionally be alkoxylated, wherein said alkoxy is selected from ethoxy, propoxy, butyloxy and mixtures thereof.

6. The automatic dishwashing detergent composition according any one of Claims 1-5 further comprising a deterative enzyme.
7. The automatic dishwashing detergent composition according to any one of Claims 1-6 comprising a metal-containing bleach catalyst selected from manganese-

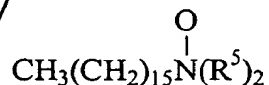
containing bleach catalysts, cobalt-containing bleach catalysts, and mixtures thereof.

8. The automatic dishwashing detergent composition according to any of Claims 1-7 further comprising a co-surfactant selected from the group consisting of low cloud point nonionic, high cloud point nonionic, anionic and mixtures thereof.
9. The automatic dishwashing detergent composition according to any of Claims 1 to 8 comprising less than 0.1% of active suds suppressing agent.
10. The composition according to any of Claims 1-9 wherein said oxide surfactant is an amine oxide surfactant having the formula:



wherein  $\text{R}^3$  is an alkyl, hydroxyalkyl, or alkyl phenyl group or mixtures thereof containing from 8 to 22 carbon atoms;  $\text{R}^4$  is an alkylene or hydroxyalkylene group containing from 2 to 3 carbon atoms or mixtures thereof;  $x$  is from 0 to 3; and each  $\text{R}^5$  is an alkyl or hydroxyalkyl group containing from 1 to 3 carbon atoms or a polyethylene oxide group containing from 1 to 3 ethylene oxide groups.

11. The composition according to any of Claims 1-10 wherein said amine oxide has the formula:



wherein  $\text{R}^5$  is as herein before defined.

12. The composition according to any one of Claims 1 to 11 wherein said low foaming nonionic surfactant is selected from the group consisting of C9,11PO3EO13PO15; C9,11PO3EO13BO6; C9,11PO3EO13BO3; C9,11EO13BO6; C9,11EO13BO3; C9,11BO1EO13BO3; C9,11EO8BO3; C12,15EO7BO2; C9,11EO8BO2; C9,11EO8BO1; C12,13EO6.5TBO1; C9,11EO8C(CH3)2CH2CH3; C11/15EO15PO6C12/14; C9,11EO8(CH2)4CH3; and mixtures thereof.

13. A method of washing tableware in a domestic automatic dishwashing appliance, said method comprising treating the soiled tableware in an automatic dishwasher with an

